OPTIMIZED READ PERFORMANCE METHOD USING METADATA TO PROTECT AGAINST DRIVER ANOMALY ERRORS IN A STORAGE ARRAY

ABSTRACT

[0030] The present invention is an apparatus and method for protecting against drive anomaly errors while optimizing random read performance. Data block persistency is explicitly verified when a data block is written. Data block integrity and location checks are performed by reading data from a single drive. Through such a process, reading of metadata from a second drive is not required, thus decreasing the drive I/O workload. In an example of the invention, a combination of a CRC and a location tag interleaved as metadata along with user data on a single drive may be employed to perform a read operation in accordance with the present invention.